OSTI's Announcement Notice 241.1

Web Service for STI

Version 6.4, November 2023

Contents

New in this revision:

- Editorial updates
- Controlled Unclassified Information updates

1.0 About

1.1 Announcement Notice 241.1

Announcement Notice (AN) 241.1 provides the Office of Scientific and Technical Information (OSTI) with the information needed to identify, process, announce and disseminate the results of work funded by the Department of Energy (DOE) or performed in DOE facilities (see DOE Order 241.1B). When submitted, the AN 241.1 set of metadata creates a citation/record that is processed by E-Link and then transferred into the appropriate databases for access (see search tools https://www.osti.gov/search-tools).

DOE sites can manually submit AN 241.1 metadata a single record at a time through a web interface on E-Link (www.osti.gov/elink). The AN 241.1 Web Service provides an additional option for submitting DOE's scientific and technical (STI) products to OSTI for dissemination. The STI product will be a full text document, such as a technical report, thesis or dissertation, book, journal literature, conference literature, or a program document. It could also be a multimedia file.

AN 241.1 metadata and products submitted to OSTI, whether through a manual process or an automated process, are subject to the same requirements. A designated Releasing Official must ensure that each record has been reviewed for any content that would make it appropriate for release to the public. The Releasing Official is also responsible to ensure that full text documents posted on site or transmitted to OSTI do not contain Personally Identifiable Information (PII) (see https://www.osti.gov/elink/faq.jsp#PII). Use of the AN 241.1 Web Service does not remove these responsibilities from the Releasing Official. STI from DOE's research and development activities is disseminated through OSTI's databases such as OSTI.GOV, through multiagency databases such as Science.gov, through global databases such as WorldWideScience.org, and through arrangements with major Internet search engines such as Google.

1.2 OSTI's AN 241.1 Web Service

OSTI's AN 241.1 Web Service allows a submitting site to send AN 241.1 information in a completely automated manner. Metadata is generated at the submitting site per the programming set-up by the site's IT developers and POSTed as an output file to OSTI. The schedule for the POST operation may be multiple times daily, once daily, once weekly, etc.

Records with unlimited access status and those with limited access can both be transmitted through the secure AN 241.1 Web Service. DOE organizations may establish a URL link to the unclassified, unlimited STI products on their websites and send the URL in the metadata or they may transmit the full text product to OSTI. All limited access (Controlled Unclassified Information or CUI) full text

are <u>required</u> to be transmitted to OSTI and cannot be posted on the site's public web.

The AN 241.1 Web Service provides the ability to submit new Announcement records, edit/update records, or retrieve a record for review. A user manipulates a record by performing HTTP operations on the web service URL and providing XML metadata. The POST command/request allows a submitter to create or edit/update <u>AN 241.1 records</u>. The GET command/request allows a submitter to retrieve a record for review.

Submitters must coordinate with OSTI and submit records to a test environment before POSTing their first XML file for dissemination. The URL for Test E-Link is https://www.osti.gov/elinktest/2411api. OSTI's production web service for announcing STI is available at https://www.osti.gov/elink/2411api.

2.0 Using the AN 241.1 Web Service

2.1 Credentials and Authentication

AN 241.1 transactions require an active E-Link user account. To request personal access to E-Link and obtain an active account, visit https://www.osti.gov/elink/register.jsp. To obtain an account for your client server to connect to OSTI's web service, contact E-Link Product Manager, Kim Buckner (bucknerk@osti.gov). Your web service account will be given a login name and password for Test E-Link. After testing is completed, you will be provided a login and password for production E-Link, as well as a separate password for your site's SFTP.

The AN 241.1 Web Service supports HTTP Basic authentication over SSL. With this method, the client connects to the HTTPS URL for either Test E-Link or, when testing is complete, for production E-Link. The POST and GET verb commands will pass along the standard Authentication HTTP header (base64 encoding).

2.2 POST (Create or Update) and GET (Retrieve) [Client to OSTI]

After successful authentication, the input body of the POST or GET request is read as an XML document, parsed, and loaded appropriately into E-Link. HTML status codes (200=OK, 401=Unauthorized, 500=System error, etc.) and an XML response, which includes certain metadata fields, are returned by OSTI's server to the client server to notify of either success in loading the record or failure.

The POST command/request is most often used to submit metadata for a new record that is being provided to OSTI for the first time, but it can also be used

to edit or update an existing record that has previously been submitted. Submitters must "tell" the system which of the two activities they intend for a record. The OSTI ID is key to this. How and why is explained below:

When POSTING to an existing record in order to update it, the OSTI ID must be included in the XML record. The updated information will then overwrite the previously submitted information. If the OSTI ID is not included when trying to POST to an existing record, the Web Service believes you are wanting to create rather than update. It will create a duplicate record, but with a new, different OSTI ID. This situation always requires correction by logging into E-Link manually and manually deleting the duplicate record.

Metadata can be retrieved for any record previously submitted by your organization by using a GET request and supplying the OSTI ID as a parameter in the request. Authentication is required and is handled in the same fashion as a Create/Update command. The requested OSTI ID returns that specific XML record. A GET operation will not update a record, however.

2.3 Response and Notifications [OSTI to Client]

OSTI's server makes an immediate response when the client-side server sends a POST or a GET request. The primary goal of the response is two-fold: to let the client server "know" if it connected successfully and to provide a status message about the record that was POSTed or retrieved. The status says SUCCESS if the record correctly transmitted and the metadata loaded into E-Link. The status says FAILURE if the record was unable to load for any reason. The FAILURE response includes a message indicating the error or problem that kept the record from loading. Errors leading to a FAILURE response occur when a required metadata field is missing, when a site URL cannot be validated by the automated validation process, when a value is too long for the field it must load into, etc.

Note that the successful record returns its newly assigned OSTI ID. The response for the failed record will not have an OSTI ID since IDs cannot be assigned to records that never actually make it into E-Link

E-Link also generates an email containing the SUCCESS or FAILURE information about each submitted record. The site will be asked to provide to OSTI the names of the people to whom these automated emails will be sent.

It is the submitting site's responsibility to review the results of the web service transactions and to correct, then resubmit those records that initially failed.

2.4 Transmitting Full-Text Products to OSTI

A secure FTP directory is set-up at OSTI for each site utilizing the AN 241.1

Web Service. A site cannot access any other site's SFTP directory…only the one assigned specifically to it. The process for providing both a metadata record and its corresponding full text product is as follows:

1. Site submits an XML metadata record to OSTI's E-Link system via the AN 241.1 Web Service.

2. The AN 241.1 Web Service notifies the submitting site that the XML record loaded successfully into E-Link and includes the newly assigned OSTI ID in the notification message. Notification goes out via server-to-server messaging and via an email to a site's designated distribution list.

3. A "script" written by the site's (client) software developers adds the new OSTI ID to the site's (client) database (records publishing system, review and approval system, etc.).

4. The "script" also reaches out to rename the corresponding full-text product, changing its file name from whatever it was originally to the new OSTI ID number. Only the number is used as the name, not any part of the OSTI ID text that sometimes prefixes the number. Example: a file named *DOELAB-27834.pdf* would be renamed *114073.pdf* (if OSTI ID 114073 had been assigned to the corresponding metadata XML record).

5. Another automated command in the submitting site's (client) programming then transmits the file named *114073.pdf* to the site's assigned SFTP directory.

6. The metadata record was submitted first and has been waiting in E- Link. It will not complete processing until E-Link recognizes that a document with the same OSTI ID is now present in the site's assigned SFTP directory.

7. If, on the first night after the XML record's submittal, E-Link does not detect a matching full-text product, the record stays in its "Submitted" state in E-Link. It will stay that way, as many days as it takes, until the full text product arrives from the site.

8. When E-Link recognizes that a full text product has arrived in the site's (client) directory and that the product has an OSTI ID matching a metadata record from the same site code, a siphon process takes place. The process attaches the product to the record.

9. After the "marriage," the record and its full text go through a "transfer" process that makes them available in the appropriate database. CUI records and documents are transferred to Science Research Connection (SRC) (see www.osti.gov/src), a password-protected system available

only to DOE and DOE contractors. Unlimited records will be sent to OSTI.gov, Pages, or other databases.

3.0 AN 241.1 Web Service Metadata

3.1 AN 241.1 Required Fields

The following is a list of the required fields for the AN 241.1 Web Service. These fields are also designated by an asterisk (*). Records submitted without required fields will fail to load into E-Link for processing. The other fields available for your use are optional, though some, such as the Abstract/Description, are highly encouraged.

NOTE: The OSTI ID is a required field for all POST requests where the intent is to edit or update records. The GET request must also include the OSTI ID and will allow retrieval of a record previously submitted by your site.

REQUIRED

	Field Name	XML Tag Name	Additional Information
1	OSTI ID+	<osti_id></osti_id>	The OSTI ID is required in all requests intended to edit or update existing records.
			When POSTing new records to OSTI, no <osti_id> tag is needed in the XML. E- Link automatically assigns an OSTI ID to each new record successfully submitted.
2	Record Status*	<new/>	These tags are required to inform the system of the status of the record being submitted.
			For new records, only the <new/> is needed.
		<revdata/> <revprod/>	For revised metadata <revdata/> or revised/replaced full text products (revprod/), the OSTI ID must be included as an attribute. See format below.
			Record Status Attributes are needed for revdata tag and revprod tag.
			<revdata osti_id='1053369'/>
			<revprod osti_id='1053370'/>
			(Note the single quote marks around the attribute value)

3	Site Code*	`<site_input_code></site_input_code>`	The site code value is assigned by OSTI to the submitting site and must be present in each XML record.
4	Product Type*	`<product_type></product_type>`	The values are upper case letters. Only one code can be placed in this field. Depending on the code, additional information may be needed. The allowed values are:

Code	Definition
TR	Technical Report or Workshop Report
CO	Conference/Event Paper, Proceedings, or Presentation If product type = CO, the following field is also needed: Conference Information = `<conference_information>`Include conference name, conference location, and conference inclusive dates`</conference_information>` Include name of conference, location, and inclusive dates. Product Sub-Type Codes | Code	Definition
A	Conference Paper
R	Conference Presentation (may receive a DOI)
O	Conference Poster (may receive a DOI)

P	Conference Proceedings |
	
	Example Conference Sub-Type
	`<records>`
	    `<record>`
	    `<!-- specify conference presentation metadata type -->`
	        `<product_type product_subtype="R">CO</product_type>`
	    `<!-- additional required metadata -->`
	    `</record>`
	`</records>`

FS	Factsheet

		JA	Journal Article
			If product type = JA, the following field is also required:
			Journal Type <journal_type>data</journal_type>
			Allowed values are AC (for announcement citation only), FT (author's early manuscript), or AM (Accepted Manuscript, meaning the final author's version after peer review comments are incorporated).
			When FT or AM are the values, the medium code used will be ED (see later in this table).
			NOTE the requirement to make the Accepted Manuscript available to OSTI and to place AM as the value in <journal_type>data</journal_type> applies to journal articles published October 1, 2014 or later.
			. . . .
			These fields are also needed for JA records:
			Journal Name <journal_name></journal_name>
			Journal Volume <journal_volume></journal_volume>
			Journal Issue <journal_issue></journal_issue>
			Journal Serial ID <journal_serial_id></journal_serial_id>
			Page Range <product_size></product_size>
			NOTE
			• Provide the page range as p. xx-xx. If the journal uses article numbers, that value may also be used in this field
			• If you know the DOI that the publisher has assigned to the journal article, please include it also. The tag for the DOI field is <doi></doi>
		TD	Thesis or Dissertation
		PD	Program Document
		B	Book/Monograph
			If product type = B, the following field is also needed:
			Publisher Information <publisher_information></publisher_information>
			Include name of publisher and city, state, and country if other than U.S.
		AR	Accomplishment Report
		P	Patent
			If product type = P, the following field is also needed:
			Patent Assignee <patent_assignee></patent_assignee>
5	STI Product Title*	<title></title>	Full title of the STI Product.

			Include version number, if applicable.
6	**USE THE 6.1 FORMAT BELOW FOR AUTHOR INFORMATION WHEN POSSIBLE**		
6.1	Author(s) Preferred format for authors and required in some cases. Note: Names of collaborations do not go in the author fields. (See Contributing Orgs in section 3.3 AN241.1 Optional Fields below)	<authors> <authors_detail> <first_name></first_name> <middle_name></middle_name> <last_name></last_name> <affiliation></affiliation> <private_email></private_email> <orcid_id></orcid_id> </authors_detail> </authors>	Use the <authors> block of tags if you are including ORCID number with any of the authors in the submitted record. When the submitted record has the <authors> block of tags, ALL author names MUST be broken out into this block format (even if only one of the names has an accompanying ORCID). NOTE the middle name, email, affiliation, and ORCID parts of the authors "block" format may be left blank if no value is available."
6.2	Author(s)* Note: Names of collaborations do not go in the author fields. (See Contributing Orgs in section 3.3 AN 241.1 Optional Fields below)	<author></author>	Format is Last Name, First Name, MI Separate multiple authors with a semi-colon followed by a space. Affiliations may be place in square brackets after each author's name. <author>Doe, John [National Tech, Inc.]; Smith, Nancy [Brookhaven National Laboratory]</author>
7	Report/Product Number(s)*	<report_nos></report_nos>	A value in this field is required but the word, None, may be used if no valid report number or product number exists. TR and TD product types should always have valid report numbers.
8	DOE Contract Number(s)*	<doe_contract_nos></doe_contract_nos>	Use the format of the contract "as is," but remove any preceding "DE". If multiple contract numbers apply, separate with a semi-colon followed by a space.

9	Originating Research Organization*	<originating_research_org> </originating_research_org>	For DOE organizations, use the spelled-out text exactly as shown in the Originating Research Organization Authority at https://www.osti.gov/elink/authorities.jsp If work for this product was done at more than one research organization, multiple values may be listed; they should be separated by a semicolon and a space. The primary DOE organization should be listed first, followed by any others. If non-DOE orgs are included, input the spelled-out, full name of the organization.
10	Publication/ Issue Date*	<publication_date></publication_date>	Use one of these three Publication Date formats: • mm/dd/yyyy • yyyy • yyyy Month If product type = TR, TD, or JA (where journal_type equals AM), the mm/dd/yyyy format MUST be used.
11	Language*	<language></language>	Up to 75 characters; use format from OSTI's Language Authority; e.g. English Authority values are available at https://www.osti.gov/elink/authorities.jsp
12	Country of Origin/ Publication*	<country_publication_code> </country_publication_code>	Use two-character code from OSTI's Country Code Authority; e.g. US Authority values are available at https://www.osti.gov/elink/authorities.jsp
13	Sponsoring Organization(s)*	<sponsor_org></sponsor_org>	For DOE organizations, use the spelled-out text as shown in the Sponsoring Organization Authority at https://www.osti.gov/elink/authorities.jsp. The DOE Order 241.1B requires three levels of sponsoring information be provided for DOE funding: Agency, Program Office, and the sub-program within the DOE Program Office. If funding for this product was provided from more than one organization, multiple values may be listed; they should be separated by a semicolon

			and a space. The primary DOE sponsor should be listed first, followed by any others. Non-DOE sponsoring orgs may also be included in this field, following the DOE orgs. Please include the spelled-out, full name of the non-DOE sponsoring organization and separate multiples with a semi-colon and a space.
14	Access Limitation* Note: There are several attribute tags and values associated with the list of limited access codes (See 3.2 Access Limitations - Attributes and Values for additional information needed when submitting access limitation values)	<access_limitation></access_limitation>	The value in the Access Limitation field should be one of the following. These values are required to have the formatting shown below (lowercase), even though they will be enclosed within the <access_limitation> tag. See more information in Section 3.2.

Use this code	Which means this:
<unl/>	unlimited announcement
<opn/>	openNet
<cpy/>	copyright material with restrictions
<cui/>	controlled unclassified information
<ouo/>	official use only
<ouoeci/>	export controlled information
<ouossi/>	security sensitive information
<ouoprot/>	protected data – CRADA or other
<ouopat/>	patent pending
<ouolrd/>	limited rights data (proprietary/trade secret)
<ouopdouo/>	program-determined official use only

			<nnpi/>	naval nuclear propulsion info
15	Medium Code*	<medium_code></medium_code>	Allowed values are	

Continuing the content of the Medium Code row (last column):

Allowed values are

- ED (if the full text document is being uploaded or FTP'd to OSTI or if a site URL is being provided for a full text document posted at the submitting site)

- X (if the full text document cannot be posted at the site or uploaded to OSTI). If X, no URL is provided in the metadata; the submission is considered "Announcement Notice Only".

- AV (if the product is audiovisual material). Any product type may exist in an audiovisual format.

The most common product type that gets an AV medium code is CO for conference/event presentations.

NOTE depending on the value put in this field, additional information will be needed (see below). If medium code = ED and the full-text product is posted at the client's site, the URL is required:

The site URL should link directly to the first page of the PDF document.

File Format is also requested:

Allowed values are: PDF/A, PDFN, HTML, PPT

If the full text product will be transmitted to the SFTP, allowed values for file format are: PDF/A, PDFN, PDFI, HTML, PPT.

NOTE the site URL should not be in the submitted data in this case.

. . . .

If medium code = AV and the video is posted at the client's site or websites such as YouTube or Scivee, the site URL is required:

File Format is requested:

			Preferred format is MP4.
			(See https://www.osti.gov/stip/submit/product-types/audiovisual for more on formats.)
			In Format Other,
			<format_other></format_other>, please provide the length of the video as run time.
			Example: <format_other>Run time: 00:50:25</format_other>
16	Released by Name*	<released_by></released_by>	The name of the designated releasing official responsible for approval of distribution/access limitation and for ensuring no PPI is contained in the metadata or the full text. OSTI admin field; does not display in output databases.
17	Released Date*	<released_date> </released_date>	Date that the record was released to OSTI by the releasing official.
18	Released by Email* Released by Phone*	<released_by_email> </released_by_email> <released_by_phone> </released_by_phone>	Both fields must be included in the metadata. This is contact information only and will not display in the output databases.

3.2 Required Fields (Cont): Access Limitation(s) Attributes and Values

Unclassified, unlimited information is available to the U.S and non-U.S. public, but certain types of information have restricted access whose publication or distribution is restricted by various laws, federal codes, executive orders, international agreements, etc. Records describing STI products with access limitations are not released to OSTI's publicly available databases. They are available to DOE and DOE contractors in Science Research Connection (SRC) (see www.osti.gov/src) with different levels of access based on the product and the requestor.

Records with access limitation codes other than Unlimited (<unl/> may require additional, different information formatted as "attributes" rather than "elements." The following table provides this formatting guidance. For more guidance on the actual restrictions, markings, and handling of STI with access limitations,

see the STIP home page at http://www.osti.gov/stip/ or contact OSTI staff at stip@osti.gov.

Access Limitation Codes	What the Code Means	Tags, examples, other information
<unl/>	Unlimited Announcement. Select this option if the STI Product should have unlimited and unrestricted distribution to the U.S. and non-U.S. public.	Example: <access_limitation> <unl/> </access_limitation>
<opn/>	OpenNet is a website supported by DOE's Office of Classification to provide access to declassified documents and other related information, in support of the National Openness Initiative. See OpenNet policy and guidance at https://www.osti.gov/opennet/ STI products marked as OpenNet will be announced by OSTI on the OpenNet database as well as on the STI announcement systems. To enable OSTI to transfer data to the OpenNet database, the following OpenNet data must be provided. Non-STI OpenNet products should be submitted using the DOE F 475.1.	Example: <access_limitation> <opn/> </access_limitation>
	Required/Needed Attributes of <access_limitation></access_limitation> if value is <opn/>	
	OpenNet Accession Number*	<opennet_accession_no>	
	OpenNet Document Location	<opennet_doc_location>	
	Applicable field office acronym	<opennet_fieldoffice_acronym>	Use the appropriate acronym provided in 'OpenNet DeClassified Information Database Data Input Specifications,' revised April 3, 1998.

	OpenNet Declassification Status*	<opennet_declass_status>	Allowed values: D (Declassified) S (Sanitized) N (Never Classified) U (Unknown).
<cpy/> and <access_limitation_other/>	Copyright Material with Restrictions. Copyrighted material may be subject to restrictions on reproduction, distribution, the preparation of derivative works, including translations; public display of the material; and public performance of the material. Enter the nature of the restriction into the <access_limitation_other> field.		Example: <access_limitation> <cpy/> </access_limitation> <access_limitation_other> Copyright Restrictions; Originating lab handles all distributions </access_limitation_other>
<cui/> and <access_limitation_other>	Controlled Unclassified Information (CUI) Controlled Unclassified Information is information the government creates or possesses, or that an entity creates or possesses on behalf of the government, that a law, regulation, or government-wide policy (LRGWP) requires or permits an agency to handle, using safeguarding or dissemination controls. Enter the basic or specified CUI categories along with any limited dissemination controls into the <access_limitation_other> field.		Example: <access_limitation> <cui/> </access_limitation> <access_limitation_other> CUI//NNPI//FEDCON </access_limitation_other>
<ouo/>	Official Use Only		Provide exemption number if OUO and no other OUO category applies. (see https://www.energy.gov/ehss/questions-about- making-ouo-determinations-ouo-and-foia- exemptions
<ouoeci/>	Export Controlled Information. Information containing technical data as defined in and controlled by U.S. export control statutes. (e.g., under ITAR/EAR) (FOIA Exemption 3)		Example: <access_limitation> <ouoeci/> </access_limitation>
<ouossi/>	Security Sensitive Information		<access_limitation> <ouossi/> </access_limitation>

			<access_limitation_other> other access lim </access_limitation_other>
<ouoprot/>	Protected Data – CRADA or Other. Information produced in the performance of a CRADA that is marked as being Protected CRADA Information by a party to the agreement and that would have been proprietary information had it been obtained from a non- Federal entity. It may be protected for a period up to 5 years from the date it was produced, except as expressly provided for in the CRADA.		Example: <access_limitation> <ouoprot protected_data_crada='Y' access_limitation_rel_date=" 01/21/2011"/> </access_limitation>
	Required Attributes of <access_limitation></access_limitation> if access limitation is <ouoprot/>		
	Protected Data CRADA	protected_data_crada	Allowed Values: "Y" or "N"
	Protected Data Other	protected_data_desc	Required if Access Limitation equals <ouoprot/> and protected_data_crada = 'N'
	Access Limitation Release Date (mm/dd/yyy)	access_limitation_rel_date	
<ouopat/>	Patent Pending. Federal agencies are authorized to withhold from public disclosure any invention in which the Government owns or may own a right, title, or interest, for a reasonable length of time so that a patent application can be filed.		<access_limitation> <ouopat/> </access_limitation>
<ouolrd/>	Limited Rights Data (Proprietary/Trade Secret) Information that embodies trade secrets or is commercial or financial and confidential or privileged, to the extent that such data pertain to items, components, or processes developed at private (not government) expense, including minor modifications.		<access_limitation> < ouolrd /> </access_limitation>
<ouopdouo/>	Program-Determined Official Use Only This type of OUO is based on approved guidance as reflected in DOE Order 471.3, Identifying and Protecting Official Use Only Information.		Examples: <access_limitation> <ouopdouo exemption_number='2'/> </access_limitation>

			<access_limitation> <ouopdouo exemption_number='7'/></access_limitation> <access_limitation_other>other access lim</access_limitation_other>
	Required/Needed Attributes of <access_limitation></access_limitation> if Access Limitation is <ouopdouo/> Access Limitation Release Date (mm/dd/yyy) -- access_limitation_rel_date pdouo Exemption Number Exemption_number -- ouopdouo exemption_number		
<nnpi/>	Naval Nuclear Propulsion Information. Unclassified information related to any aspect of propulsion plants of naval nuclear-powered ships and prototypes, including the associated shipboard and shore-based nuclear support facilities. See Chief of Naval Operations Instruction N9210.3, Safeguarding of Naval Nuclear Propulsion Information.		Example: <access_limitation> <nnpi/> </access_limitation>

3.3   AN 241.1 Optional Fields

The following is a list of optional fields for the AN 241.1 STI Announcement Web Service. Inclusion of some of these fields, such as the Abstract/Description, is highly encouraged.

OPTIONAL

	Field	XML Tag	Comments
1	Author(s) Email Address(es)	<author_emails> </author_emails>	Admin info only; it will not be displayed in public databases. NOTE Use this field only when NOT using the <authors> block of fields.
2	Related Document Information	<related_doc_info> </related_doc_info>	Provide additional useful information related to the STI Product that should be

| | | | included in the published announcement notice, but does not fit elsewhere.

This is a favorable place to note supplementary material, a DOI for a dataset, etc. if the STI product is a journal article. |
| --- | --- | --- | --- |
| 3 | Related Identifier(s) | <relidentifiersblock>

<relidentifier_detail>

<related_identifier>

</related_identifier>

<related_identifier_type>

</related_identifier_type>

<relation_type>

</relation_type>

</relidentifier_detail>

</relidentifiersblock>

NOTE the top level tags have been shortened by leaving off part of the word "related." Be sure to correctly spell those tags and the interior tags where the words are completely spelled out | Identifiers of related resources. These identifiers must be DOIs. Each DOI included as a related identifier must be part of the overall <relidentifiersblock> in the XML record. Multiple related identifiers may be provided and each one appears in a nested <relidentifier_detail> set of tags.

The DOI itself is then placed in the

<related_identifier> tag, and the value for the required <related_identifier_type> is simply the word DOI.

If a related_identifier is used, the <relation_type> tag is also placed in the overall block. The <relation_type> tag indicates, with controlled vocabulary, the relationship of the resource being registered (A) and the related resource (B). The related resource may be another dataset, a journal article or other publication, an image or video file, etc.

The controlled vocabulary terms are listed below.

See Appendix A.1 for definitions and usage notes.

IsCitedBy	Cites
IsSupplementTo	IsSupplementedBy
IsContinuedBy	Continues
HasMetadata	IsMetadataFor
IsNewVersionOf	IsPreviousVersionOf
IsPartOf	HasPart
IsReferencedBy	References
IsDocumentedBy	Documents	

			IsCompiledBy	Compiles
			IsVariantFormOf	IsOriginalFormOf
			IsIdenticalTo	
			IsReviewedBy	Reviews
			IsDerivedFrom	IsSourceOf
			IsObsoletedBy	Obsoletes
4	Availability	`<availability>` `</availability>`	Normally used to provide the name of an organization, a division within a lab, a specific employee's title, etc. to which a request for further information may be made.	
5	R&D Project ID(s)	`<rd_project_ids>` `</rd_project_ids>`	Enter the unique and permanent Project ID assigned to the project itself by the DOE Field Office, Program Office, lab, or other installation to identify a particular research project. Separate multiples with a semicolon and a space. Sample formats: P/ORNL--2533; TTP/RL439005	
6	Work Proposal Number	`<work_proposal_number>` `</work_proposal_number>`	Enter the unique seven-character identifier specific to the document that was used for proposing work to the program office. Multiple numbers are separated with a semicolon and a space.	
7	Work Proposal Revision Number	`<proposal_revision_number>` `</proposal_revision_number>`	If the initial proposal is changed, enter the assigned sequential number of the work proposal revision.	
8	Work Authorization Number	`<work_authorization_number>` `</work_authorization_number>`	Enter the unique, standardized seven-character identifier assigned by the issuing organization, specific to the work authorization. The standard format is two characters identifying the issuing DOE organization code, a four-digit sequential number assigned by the issuing organization, and one digit signifying the last digit of fiscal year. Multiple numbers are separated with a semicolon and a space.	
9	Work Authorization Revision Number	`<authorization_revision_ number></authorization_ revision_number>`	If the initial authorization is changed, enter the assigned sequential number of the work authorization revision.	

10	Other Identifying Numbers(s)	<other_identifying_nos> </other_identifying_nos>	Any other numbers that users might wish to retrieve on or need to recognize. If there are multiple values in this field, separate them with a semicolon followed by a space.
11	Subject Categories	<subject_category_code> </subject_category_code>	Use the complete value (numerical code and spelled-out category title) as shown in the Subject Category Authority at https://www.osti.gov/elink/authorities.jsp. As many multiples as needed are allowed in this tag set; separate them with a semicolon and a space. List the primary subject category first.
12	Keywords	<keywords></keywords>	
13	Description/Abstract	<description></description> 5000 character limit	Though not required, this field is highly encouraged. Including it will greatly enhance the retrieval of the STI Product.
14	Product Size	<product_size></product_size>	For a technical report, provide the number of pages. For a journal article, provide the page range where the article is found in the print version (p. 33 – 37).
15	Publisher Name and Location	<publisher_information> </publisher_information>	Provide the publisher name and location when the originating research organization is not the organization that issued the document for dissemination.
16	Contributor Collaborations/Organizations	<contributor_organizations> </contributor_organizations>	Provide the official name of a collaboration in this field rather than in the regular Author field. Names for similar organizations, such as a consortium, should also go here.
17	Site Accession Number	<accession_num> </accession_num>	Most sites have databases from which they transmit STI to OSTI. These databases often generate automatic sequence numbers for each record. The numbers are commonly referred to as "site accession numbers". If you wish to submit those numbers with your metadata, put them in this tag and they will be reflected in the notification email that comes back to you after each submission. The site accession number can help you identify records that failed to

	load and can help identify duplication of records.

4.0 Appendices

A.1 Related Identifiers (definitions and usage notes)

Note: Much of this table is copied directly from the DataCite 4.0 schema, Appendix, Table 9: Description of relation type. Some of the example values in the XML were then created from fictitious sources by OSTI staff. Do not expect those particular URLs or DOIs to work as active links.

Controlled Vocabulary Terms	
IsCitedBy	Indicates that B includes A in a citation <related_identifier>10.4232/10.ASEAS-5.2-1</related_identifier> <related_identifier_type>DOI</related_identifier_type> <relation_type>IsCitedBy</relation_type>
Cites	Indicates that A includes B in a citation <related_identifier>10.2272/79348</related_identifier> <related_identifier_type>DOI</related_identifier_type> <relation_type>Cites</relation_type>
IsSupplementTo	Indicates that A is a supplement to B <related_identifier>10.5789/10.test-5.2-1</related_identifier> <related_identifier_type>DOI</related_identifier_type> <relation_type>IsSupplementTo</relation_type>
IsSupplementedBy	Indicates that B is a supplement to A <related_identifier> http://patents.gov/169113</related_identifier> <related_identifier_type>URL</related_identifier_type> <relation_type>IsSupplementedBy</relation_type>
IsContinuedBy	Indicates A is continued by the work B <related_identifier>http://restofthestory.com.I_love_science</related_identifier> <related_identifier_type>URL</related_identifier_type> <relation_type>IsContinuedBy</relation_type>
Continues	Indicates A is a continuation of work B <related_identifier>http://endthisstory.org/sciencehalts/</related_identifier>

	<related_identifier_type>URL</related_identifier_type> <relation_type>Continues</relation_type>
HasMetadata	Indicates resource A has additional metadata B <related_identifier> http://www.ddialliance.org/Specification/DDILifecycle/</related_identifier> <related_identifier_type>URL</related_identifier_type> <relation_type>HasMetadata</relation_type>
IsMetadataFor	Indicates additional metadata A for a resource B <related_identifier>http://anewway2write.org</related_identifier> <related_identifier_type>URL</related_identifier_type> <relation_type>IsMetadataFor</relation_type>
IsNewVersionOf	Indicates A is a new edition of B, where the new edition has been modified or updated <related_identifier>10.5438/0005</related_identifier>
IsPreviousVersionOf	Indicates A is a previous edition of B <related_identifier>10.5438/0007</related_identifier> <related_identifier_type>DOI</related_identifier_type> <relation_type>IsPreviousVersionOf</relation_type>
IsPartOf	Indicates A is a portion of B; may be used for elements of a series <related_identifier>10.4869/mybook/27557</related_identifier> <related_identifier_type>DOI</related_identifier_type> <relation_type>IsPartOf</relation_type>
HasPart	Indicates A includes the part B <related_identifier>10.1234/7894</related_identifier> <related_identifier_type>DOI</related_identifier_type> <relation_type>HasPart</relation_type>
IsReferencedBy	Indicates A is used as a source of information by B <related_identifier> http://www.testpubl.de </related_identifier> <related_identifier_type>URL</related_identifier_type> <relation_type>IsReferencedBy</relation_type>
References	Indicates B is used as a source of information for A <related_identifier>10.2172/963101</related_identifier> <related_identifier_type>DOI</related_identifier_type> <relation_type>References</relation_type>

IsDocumentedBy	Indicates B is documentation about/explaining A \<related_identifier\> http://tobias-lib.unituebingen.de/volltexte/2000/96/\</related_identifier\> \<related_identifier_type\>URL\</related_identifier_type\> \<relation_type\>IsDocumentedBy\</relation_type\>
Documents	Indicates A is documentation about B \<related_identifier\>10.1234/7836321\</related_identifier\> \<related_identifier_type\>DOI\</related_identifier_type\> \<relation_type\>Documents\</relation_type\>
IsCompiledBy	Indicates B is used to compile or create A \<related_identifier\> http://d-nb.info/gnd/4513749-3 \</related_identifier\> \<related_identifier_type\>URL\</related_identifier_type\> \<relation_type\>IsCompiledBy\</relation_type\>
Compiles	Indicates B is the result of a compile or creation event using A \<related_identifier\>10.8879/softwaregalore/1234\</related_identifier\> \<related_identifier_type\>DOI\</related_identifier_type\> \<relation_type\>Compiles\</relation_type\>
IsVariantFormOf	Indicates A is a variant or different form of B, e.g. calculated or calibrated form or different packaging \<related_identifier\>10.1234/8675\</related_identifier\> \<related_identifier_type\>DOI\</related_identifier_type\> \<relation_type\>IsVariantFormOf\</relation_type\> Use for a different form of one thing.
IsOriginalFormOf	Indicates A is the original form of B \<related_identifier\>10.1234/9035\</related_identifier\> \<related_identifier_type\>DOI\</related_identifier_type\> \<relation_type\>IsOriginalFormOf\</relation_type\>
IsIdenticalTo	Indicates that A is identical to B, for use when there is a need to register two separate instances of the same resource \<related_identifier\> http://oac.cdlib.org/findaid/ark:/13030/c8r78fzq \</related_identifier\> \<related_identifier_type\>URL\</related_identifier_type\> \<relation_type\>IsIdenticalTo\</relation_type\> IsIdenticalTo should be used for a resource that is the same as the registered resource but is saved on another location, maybe another institution.

IsReviewedBy	Indicates that A is reviewed by B <related_identifier>10.5256/F1000RESEARCH.4288.R4745</related_identifier> <related_identifier_type>DOI</related_identifier_type> <relation_type>IsReviewedBy</relation_type>
Reviews	Indicates that A is a review of B <related_identifier>10.12688/f1000research.4001.12</related_identifier> <related_identifier_type>DOI</related_identifier_type> <relation_type>Reviews</relation_type>
IsDerivedFrom	Indicates B is a source upon which A is based <related_identifier>10.6078/M7DZ067C </related_identifier> <related_identifier_type>DOI</related_identifier_type> <relation_type>IsDerivedFrom</relation_type> IsDerivedFrom should be used for a resource that is a derivative of an original resource.
IsSourceOf	Indicates A is a source upon which B is based <related_identifier> http://opencontext.org/projects/81204AF8-127C-4686-E9B0- 1202C3A47959 </related_identifier> <related_identifier_type>URL</related_identifier_type> <relation_type>IsSourceOf</relation_type> IsSourceOf is the original resource from which a derivative resource was created.
IsObsoletedBy	Indicates A is obsoleted by B <related_identifier>10.6078/M7DZ067C </related_identifier> <related_identifier_type>DOI</related_identifier_type> <relation_type>IsObsoltetedBy</relation_type>
Obsoletes	Indicates A obsoletes B <related_identifier>10.12688/f1000research.4001.12</related_identifier> <related_identifier_type>DOI</related_identifier_type> <relation_type>Obsoletes</relation_type>

A.2 Examples of XML 241.1 Metadata Records

Here is an example of an XML file with two AN 241.1 records in it. The first is an announcement of a technical report as it would come to OSTI's 241.1 web service. Following it is an example of a 241.1 announcement of a journal article with full text noted as an accepted manuscript (AM) as required by the DOE Public Access Plan.

Both records use the preferred "block" format for author names and related information.

241.1 announcement of a technical report as it would come to OSTI's AN 241.1 web service

```
<?xml version="1.0" encoding="UTF-8"?>
<records>
<record>
<new/>
<site_input_code>MLNL</site_input_code>
<product_type>TR</product_type>
<title>This is a test record</title>
<authors>
<authors_detail>
<first_name>Thomas</first_name>
<middle_name>R.</middle_name>
<last_name>Testman</last_name>
<affiliation>Major Laboratory Name</affiliation>
<private_email></private_email>
<orcid_id>0000-0002-3765-8932</orcid_id>
</authors_detail>
</authors>
<report_nos>PNL-17991</report_nos><doe_contract_nos>AC00-
76RL00000</doe_contract_nos>
<other_identifying_nos>248607</other_identifying_nos>
<originating_research_org>Pacific Northwest National Laboratory (PNNL), Richland,
WA (United States)</originating_research_org>
<publication_date>10/31/2008</publication_date>
<language>English</language>
<country_publication_code>US</country_publication_code>
<sponsor_org>USDOE Office of Environmental Management (EM), Office of
Soil/Ground Water Remediation (EM-12)</sponsor_org>
<keywords>Emergent Sandbar Habitat; Missouri River; Least Tern; Piping Plover;
adaptive management; EIS</keywords>
<description>The goal of the Emergent Sandbar Habitat (ESH) program is to provide
sufficient habitat throughout the Missouri River system to allow self-sustaining
populations of Interior Least Tern (Sternula antillarum) and Piping Plover (Charadrius
melodus). The adaptive management (AM) strategy described herein establishes the
process, understanding and tools necessary to adaptively manage the ESH element of
```

the response to the 2003 Biological Opinion for the next 10-15 years. The AM strategy is intended to assist the Corps of Engineers, U.S. Fish and Wildlife Service and their stakeholders in making decisions regarding how to best improve populations of tern and plover through habitat creation. This AM strategy is guided by the framework and principles described in Adaptive Management, the U.S. Department of the Interior Technical Guide.</description>
<medium_code>ED</medium_code>
<access_limitation>
<unl/>
</access_limitation>
<site_url>http://www.test.gov/test/1234.pdf</site_url>
<released_by>Test Official</released_by>
<released_date>02/05/2009</released_date>
<released_by_email>tester@osti.gov</released_by_email>
<released_by_phone>(865)576-9999</released_by_phone>
</record></records>

241.1 announcement of a journal article with full text noted as an accepted manuscript (AM) as required by the DOE Public Access Plan)

<?xml version="1.0"?>
<records>
<record>
<new />
<site_input_code>MLNL</site_input_code>
<product_type>JA</product_type>
<journal_type>AM</journal_type>
<title>Finding the Higgs Boson</title>
<authors>
<authors_detail><first_name>John</first_name>
<middle_name>James</middle_name>
<last_name>Ruckus</last_name>
<affiliation>Major Lab National Laboratory</affiliation>
<private_email>ruckusjj@mllb.gov</private_email>
<orcid_id>0000-0002-4398-2983</orcid_id>
</authors_detail>
<authors_detail>
<first_name>Mary</first_name>
<middle_name>Lynn</middle_name>
<last_name>King</last_name>

```xml
<affiliation>Major Lab National Laboratory</affiliation>
<private_email>kingm@mllb.gov</private_email>
<orcid_id></orcid_id>
</authors_detail>
</authors>
<journal_name>Physics Review</journal_name>
<journal_volume>10</journal_volume>
<journal_issue>2</journal_issue>
<report_nos>None</report_nos>
<doe_contract_nos>AC44-05CH55331</doe_contract_nos>
<originating_research_org>MajorLab National Laboratory, Test Town, CA (US)
</originating_research_org>
<publication_date>04/01/2015</publication_date>
<language>English</language>
<country_publication_code>US</country_publication_code>
<sponsor_org>USDOE Office of Science (SC), Office of Nuclear Physics (NP) (SC-
26)</sponsor_org>
<subject_category_code>72 Physics of Elementary Particles and Fields
</subject_category_code>
<medium_code>ED</medium_code>
<access_limitation>
<unl />
</access_limitation>
<released_by>A. C. Tester</released_by>
<released_date>08/11/2004</released_date>
<released_by_email>testa@testsite.gov</released_by_email>
<released_by_phone>105/586-5504</released_by_phone>
</record>
</records
```